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S-Series Radiator Replacement

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12-17-2006, 05:11 PM

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#1

RangerRover

Senior Member



Join Date: Dec 2005
Location: Creedmoor, NC
Posts: 1,648

[RangerRover's Photos](#) 

1999 SW2
1994 SL2

S-Series Radiator Replacement

1994 Saturn SLx Radiator replacement

Tools Needed:
3/8" ratchet
10mm socket
10mm deep well socket
6" extension

1. Jack up car and support using jack stands.

2. Start by removing the air tube over radiator by pulling off the 2 small plastic clips attached over the radiator. There is also a sensor connected on the bottom right side near the airbox, so don't just yank it off.

3. Remove the airbox using the 10mm socket with 6" extension – there are three 10mm bolts holding it down – two behind the airbox and one in front.

4. Undo the clips holding the wires for the fan and o2 sensor, then disconnect the connector for the fan.

5. Undo the single 10mm bolt holding the fan to the radiator on the drivers side. Lift up on the left hand side and work the fan housing out at an angle. Careful of the A/C lines – don't force it. The wire clips may bind on the A/C lines, I removed the top wire clip and it made it easier to get out.

6. Remove radiator cap and drain radiator. Simply turn the drain plug on the passenger side and let it drain – it took about 10 minutes to fully drain for me.



7. Undo the two 10mm bolts holding the radiator brackets using the deep well socket.



8. Drain block – single 10mm bolt under the lower radiator hose / thermostat housing.



9. Remove upper radiator hose.

10. Remove Lower radiator hose.

10a. If you have an automatic transmission disconnect the cooler lines at this point, using a flare nut wrench. If you cannot get them off, you can remove them at the transmission side, and purchase new ones from the dealer. Plan on these not coming off, if the car is more than 6 or 7 years old.

11. Remove the two 10mm bolts (one on driver side and one on passenger side) holding the AC condenser to the front of the radiator. These can be a pain to get off – lift the radiator and condenser as a unit out of the rubber mounts to give you enough room to get a ratchet in there from the front, under the bumper.



12. Lift up on the right side of the radiator to let it drain the rest of the way (there will still be a little coolant left after you drained it.)



13. Install new radiator. You may need to remove the metal clips for the bolts off the old radiator and install them on the new one. Reconnect the two 10mm bolts holding the condenser to the radiator on the same way you took them off – this is a real pain. Reconnect the two 10mm bolts for the upper brackets of the radiator using the 10mm deep well socket.



14. Re-install the upper radiator mounts.

15. Install lower radiator hose. Now is a good time to replace the hoses. Use hose grease to make it much easier to get them on. It is also a good time to replace the clamps.

16. Install fan – be sure to re-clip the o2 sensor wire and fan wires, otherwise they may get caught in the fan. Re-connect the fan connector.

17. Install new upper radiator hose. Before you install this it is a good time to replace the ECTS if you still have the original plastic tipped one, it's easier to get to.

17a. Auto Transmission – reconnect the cooler lines.

18. Reinstall airbox, air ducts, re-connect the air temperature sensor.

19. Refill radiator. You will need to check the level periodically over the next few days and add as necessary.

Misc notes:

This whole install from beginning to end, including taking pictures and taking notes, took about 2.5 hours. I took my time. If you are mechanically inclined it should take much less. The hardest part is getting those 10mm bolts from the AC condenser off and back on. On a scale of 1-10 with 1 being an oil change and 10 pulling the engine I would rate this job a 2. Just be patient – this is one of the easier things to do.

...

You can tell Linux is made by geeks.

REWARD EXCELLENCE!



Rate the quality of this post and help *RangerRover* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!



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12-17-2006, 07:39 PM

#2

94sc2boy

Member

Join Date: Sep 2000
Location: Morro Bay, CA
Posts: 482

[94sc2boy's Photos](#)

1994 SC2



Re: S-Series Radiator Replacement Howto

this is excellent, but I do believe it should be in the HOW To section. I don't know who can actually move it though.

Good job.

REWARD EXCELLENCE!



Rate the quality of this post and help *94sc2boy* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!



12-17-2006, 09:10 PM

#3

jambra1

Advanced Member

Join Date: Jul 2004
Location: dallas, texas
Posts: 965

1999 SC2

1999 SL2



Re: S-Series Radiator Replacement Howto

Thanks for the work on this, including the pix. By either posting this again or having it moved to the How-To, it should be a good complement for this post and give searchers plenty of helpful options.

<http://www.saturnfans.com/forums/showthread.php?t=42028>

..

REWARD EXCELLENCE!



Rate the quality of this post and help *jambra1* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!



12-17-2006, 11:11 PM

#4

Re: S-Series Radiator Replacement Howto

SaturnManiac

Master Member



Join Date: Feb 2006
Location: Near VA Border
Posts: 3,650

[SaturnManiac's Photos](#) 

It's not that hard to change and is basically the same on all S-series....I replaced mine on my 1996 SL2. And you don't have to use jackstands....we used ramps.

...

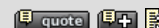
R.I.P. - My 1996 Saturn SL2, "Psycho" - 7/95-2/17/06

R.I.P. - My 2000 Saturn SL2, "Sexy" - 11/24/99-8/05/08

If you're a car begging for your life, wouldn't you want someone to add fluids?

REWARD EXCELLENCE!

Rate the quality of this post and help *SaturnManiac* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!



12-18-2006, 10:51 AM

#5

nad

Member



Join Date: Nov 2006
Location: mora mn
Posts: 68

1995 SC2
1993 SC2

**Re: S-Series Radiator Replacement Howto**

I never lifted my car. I just laid in the driveway.

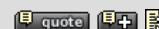
Don't forget that you can't interchange the SLx radiators with the SCx radiators.

:edit: Also putting a radiator from an auto into an manual *can* be done, but not recommended.

Last edited by nad; 12-18-2006 at 10:57 AM..

REWARD EXCELLENCE!

Rate the quality of this post and help *nad* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!



12-18-2006, 11:09 AM

#6

94SW2

Member



Join Date: Jan 2006
Location: Whitewater, WI
Posts: 235

[94SW2's Photos](#)

1993 SL2
1994 SW2

**Re: S-Series Radiator Replacement Howto**

please explain, with regards to auto radiator into manual car...what issues are presented?
Just trying to gain knowledge...😊

REWARD EXCELLENCE!

Rate the quality of this post and help *94SW2* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!



12-18-2006, 11:35 AM

#7

DonP

Master Member



Join Date: Jun 2006
Location: VA
Posts: 3,582

[DonP's Photos](#)

1995 SL2

**Re: S-Series Radiator Replacement Howto**

Most after market radiators will have the auto tranny cooling capability (means one less part to stock). With a manual you just ignore the connection points for the auto transmission fluid lines.

Be aware that coolant is bad for pets who might drink a spill, so clean it up.

I'd rate its difficulty on a par with a water pump replacement.

Last edited by DonP; 12-18-2006 at 11:44 AM..

REWARD EXCELLENCE!

Rate the quality of this post and help *DonP* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!



12-18-2006, 11:53 AM

#8

Low Saturn

Super Member



Join Date: Aug 2003
Location: San Jose, CA
Posts: 15,299

[Low Saturn's Photos](#) **Re: S-Series Radiator Replacement Howto**

Quote:

Originally Posted by **nad**

Don't forget that you can't interchange the SLx radiators with the SCx radiators.

We've put a 1995 SL2 radiator into a 1996 SC2 with not problems,

Quote:

Originally Posted by **nad**

:edit: Also putting a radiator from an auto into an manual can be done, but not recommended.

2000 SC2

Why would you say this? They're almost identical except for the trans cooler. You just dont connect it in a manual. There is no negative effects to putting a radiator from a auto into a manual transmission car. In fact if you were to get a replacement, it would be universal and have the provisions for the auto cooling lines.

...

Mike

-1991 Turbo SL2.
11.809 @ 116.488 mph
www.differentracing.com

-2000 SC2
-2001 Limited Edition SC2 (#78)
-2001 Chevrolet Suburban
-2011 Rally Yellow Chevrolet Camaro 2SS RS

REWARD EXCELLENCE!

 Rate the quality of this post and help *Low Saturn* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

12-19-2006, 12:07 AM #9

[nad](#)
Member
Join Date: Nov 2006
Location: mora mn
Posts: 68
1995 SC2
1993 SC2

Re: S-Series Radiator Replacement Howto

Quote:

Originally Posted by **Low Saturn** 
We've put a 1995 SL2 radiator into a 1996 SC2 with not problems,

I had to bend mine to get it into place. 96 sl1 auto into a 95 sc2 manual.

Quote:

Originally Posted by **Low Saturn** 
Why would you say this? They're almost identical except for the trans cooler. You just dont connect it in a manual. There is no negative effects to putting a radiator from a auto into a manual transmission car. In fact if you were to get a replacement, it would be universal and have the provisions for the auto cooling lines.

My car used to stay cool on the 1/4 mark on the temp gauge. But after I put the auto SLx rad into my manual SC2. My temp stays at 1/2.

That's why I say those things.

REWARD EXCELLENCE!

 Rate the quality of this post and help *nad* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

12-19-2006, 08:27 AM #10

[bobc455](#)
Member
Join Date: Oct 2006
Posts: 267

Re: S-Series Radiator Replacement Howto

Quote:

Originally Posted by **RangerRover** 
*Tools Needed:
3/8" ratchet
10mm socket
10mm deep well socket
6" extension*

Don't forget
10. If you have an automatic transmission...a flare nut wrench.

REWARD EXCELLENCE!

 Rate the quality of this post and help *bobc455* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

12-19-2006, 09:43 AM #11

[RangerRover](#)
Senior Member

Join Date: Dec 2005

Re: S-Series Radiator Replacement Howto

Quote:

Originally Posted by **bobc455** 
*Don't forget
10. If you have an automatic transmission...a flare nut wrench.*

Location: Creedmoor, NC Posts: 1,648 RangerRover's Photos 1999 SW2 1994 SL2	Yup, forgot to list that one - since I don't have an automatic I didn't have to deal with those lines, thank God. All aftermarket radiators for these cars are universal - they have the transmission ports, but they have plugs in them. If you don't have an auto, you don't use them. Nad, I don't know why your car would be running hotter unless you replaced the thermostat at the same time, or removed the rubber air dam underneath. I did the reservoir cap, thermostat, radiator hoses, and radiator all at the same time. I had a bad thermostat, and the temperature went from 1/4 to 1/2 (where it is supposed to be on first gen cars). ... You can tell Linux is made by geeks.
REWARD EXCELLENCE! Rate the quality of this post and help <i>RangerRover</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!	

12-19-2006, 12:18 PM #12	
dildog Member you smoll like butt Join Date: Jul 2006 Posts: 90	Re: S-Series Radiator Replacement Howto I just changed my radiator on a 1996 SL2 Auto.. There's no way possible that I saw to remove the trans cooler lines from the radiator, even w/ a flare nut wrench. Luckily there are quick disconnects on the trans itself (I even replaced the fittings on the trans) and the cooler lines are hella cheap. So my advice is, if you plan on replacing your radiator just go ahead and buy the trans cooler lines as well.
REWARD EXCELLENCE! Rate the quality of this post and help <i>dildog</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!	

12-19-2006, 12:29 PM #13	
Luke Master Member Join Date: May 2002 Location: Laguna Bch, CA Posts: 4,159 1995 SL2	Re: S-Series Radiator Replacement Howto Quote: Fm Dil Dog So my advice is, if you plan on replacing your radiator, just go ahead and buy the trans cooler lines as well. Good suggestion..... ... > 95 SL 2 = 653,369 Miles 40.4 MPG, as of 5/20/11. My manual Radiator Fan Switch, courtesy of Wolfman's patient installation guidance, continues to be.....invaluable < The car was retired
REWARD EXCELLENCE! Rate the quality of this post and help <i>Luke</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!	

12-19-2006, 01:06 PM #14	
Low Saturn Super Member Join Date: Aug 2003 Location: San Jose, CA Posts: 15,299 Low Saturn's Photos 2000 SC2	Re: S-Series Radiator Replacement Howto Quote: Originally Posted by Luke Good suggestion..... We put aftermarket external transmission coolers on all our Saturn automatics. A cooler transmission is a happy transmission. ... Mike -1991 Turbo SL2. 11.809 @ 116.488 mph www.differentracing.com -2000 SC2 -2001 Limited Edition SC2 (#78) -2001 Chevrolet Suburban -2011 Rally Yellow Chevrolet Camaro 2SS RS
REWARD EXCELLENCE! Rate the quality of this post and help <i>Low Saturn</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!	

12-19-2006, 01:06 PM #15

dildog
Member



Join Date: Jul 2006
Posts: 90

Re: S-Series Radiator Replacement Howto

Quote:

Originally Posted by **Luke** 
Good suggestion.....

Thx.. and just an FYI.. The new oil cooler lines do NOT come with the plastic fittings that go inside the quick connects, so either order those too or plan on re-using the old ones.

REWARD EXCELLENCE!

 Rate the quality of this post and help **dildog** reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

12-19-2006, 01:17 PM #16

Low Saturn
Super Member



Join Date: Aug 2003
Location: San Jose, CA
Posts: 15,299

[Low Saturn's Photos](#) 

2000 SC2

Re: S-Series Radiator Replacement Howto

Quote:

Originally Posted by **dildog** 
Thx.. and just an FYI.. The new oil cooler lines do NOT come with the plastic fittings that go inside the quick connects, so either order those too or plan on re-using the old ones.

You can also cut the line at the radiator and attach it to a line going to an external cooler. You can leave an external cooler in place when doing a radiator replacement. So no matter how many times the radiator goes bad, you never have to disconnect any tranny lines. Plus you get better cooling and the tranny lasts longer.

...
Mike

-1991 Turbo SL2.
11.809 @ 116.488 mph
www.differentracing.com

-2000 SC2
-2001 Limited Edition SC2 (#78)
-2001 Chevrolet Suburban
-2011 Rally Yellow Chevrolet Camaro 2SS RS

REWARD EXCELLENCE!

 Rate the quality of this post and help **Low Saturn** reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

12-21-2006, 09:38 AM #17

Luke
Master Member



Join Date: May 2002
Location: Laguna Bch, CA
Posts: 4,159

1995 SL2

Re: S-Series Radiator Replacement

Sorry....please ignore / test 

Please delete

...

> 95 SL 2 = 653,369 Miles 40.4 MPG, as of 5/20/11. My manual Radiator Fan Switch, courtesy of Wolfman's patient installation guidance, continues to be.....invaluable < The car was retired

REWARD EXCELLENCE!

 Rate the quality of this post and help **Luke** reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

03-13-2007, 09:38 PM #18

David 93 SL2m
Master Member



Join Date: May 2000
Location: North America
Posts: 3,594

[David 93 SL2m's Photos](#) 

2004 VUE 2.2L
2007 ION-3 Sedan

Re: S-Series Radiator Replacement

I replaced the radiator on my 1993 SC2 5-speed and found a few differences. Perhaps Saturn changed these in the later model years?

1. The fan had two bolts holding it to the radiator, one on each side.
2. The AC condenser had four bolts holding it to the other side of the radiator, two on each side.

I also want to point out the bolts or nuts holding the radiator, fan, and the AC condenser in place were all tightened with little force. This is because these things screw onto the side tanks of the radiator which are plastic and we don't need to apply much force. When re-tightening these things I simply held the 10mm deep socket with my fingers and made them snug without using the socket wrench.

Overall this job was much easier than I had imagined. The only thing that gave me a bit of trouble was the bolts for the AC condenser since there isn't much room there for our hands. At least on my 1993 SC2 there wasn't much room.

...

09-01-2008, 07:34 PM

Re: S-Series Radiator Replacement

This single post enabled me to save a bunch of money by doing this myself. Thank you!

REWARD EXCELLENCE!

Rate the quality of this post and help *David 93 SL2m* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

12-08-2008, 03:20 PM

Re: S-Series Radiator Replacement

Just finished this job on my '93 SL1 and I found that it is MUCH easier to get the 4 bolts on the AC condenser if you remove the headlights and go in from the top. It only takes a couple of seconds to pull the light mounts (3 10MM bolts each), and you don't have to jack up the car or crawl around on the floor at all. The whole job can be done from the top this way.

REWARD EXCELLENCE!

Rate the quality of this post and help *ResQguy* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

12-08-2008, 03:20 PM

Re: S-Series Radiator Replacement

Just finished this job on my '93 SL1 and I found that it is MUCH easier to get the 4 bolts on the AC condenser if you remove the headlights and go in from the top. It only takes a couple of seconds to pull the light mounts (3 10MM bolts each), and you don't have to jack up the car or crawl around on the floor at all. The whole job can be done from the top this way.

REWARD EXCELLENCE!

Rate the quality of this post and help *ResQguy* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

quote

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